ORIGINAL ARTICLE

Use of Tobacco and Oral Sub Mucous Fibrosis in Teenagers

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ABSTRACT

The Study was conducted to evaluate the prevalence of Use of tobacco & its associated products & Oral Sub Mucous Fibrosis among teenagers. It was conducted on 750 school going teenagers of Dehradun city. Results of the study showed that 34.1% of the study subjects used tobacco & its associated products & among them 14.2% of Oral Sub Mucous Fibrosis cases were identified. Association between type of tobacco product & occurrence of Oral sub Mucous Fibrosis was also found. Tobacco & its associated products have been identified as a high risk for occurrence of the precancerous condition (Oral Sub Mucous Fibrosis). Essential steps must be instituted to decelerate this rapidly evolving epidemic of Tobacco/Areca nut use & thus Oral Sub Mucous Fibrosis & Oral cancer.

Keywords: Oral Sub Mucous Fibrosis, Prevalence, Teenagers, Tobacco & its associated products

INTRODUCTION

World Health Organization defines Oral Sub Mucous Fibrosis – A premalignant condition as 'A generalized state of the oral mucosa associated with a significantly increased risk of oral cancer'[1].

This chronic progressive scarring disease that predominantly affects the people of South East Asian origin, was first reported by Schwartz in 1952 who described it as 'atrophica idiopathica mucosa oris'[2].

In India 30-40% of all reported cancers is Oral Cancer[3] & is among the three easily identifiable cancers (Oral cancer, Breast cancer, Cervical cancer). This high percentage is associated with use of tobacco & its related products whether it be chewing or smoking.

Association of occurrence of oral cancer has also been reported with low socio-economic status in a study conducted in Britain[4].

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Oral cancer is one of the 4 major non communicable diseases (cardiovascular disease, cancer, chronic obstructive pulmonary disease & diabetes) leading to death.

The use & dependence on areca nut in the form of so called pan-masala / Gutkha is rapidly increasing especially among youth in India. Main constituent of pan-masala is areca nut with tobacco, areca lime, catechu (kattha), tannin etc and some flavoring agents as additives in the preparation. These additives have an enhancing affect on carcinogenic properties of arecanut & because of its addictive properties leads to physical dependency on the product[5].

Exposure to tobacco & areca nut in terms of frequency & time period of contact exposure with oral mucosa, increases the risk of oral cancer suggesting a dose-response relationship[6,7].

WHO recently evaluated & announced areca nut as a carcinogen in the light of results of a recent exercise[8].

During School dental health check-up camps in suburb areas of Dehradun city, it was found that students especially of teenage group use tobacco (chewing & smoking) & its associated products like Guthkha, khaini, surti, mawa, gul etc) & Oral sub mucous fibrosis (OSMF)

was widely prevalent among them. So this study was undertaken to asses the prevalence of OSMF & its association with use of tobacco among teenagers attending these schools.

MATERIAL & METHODS

This study included 750 subjects between the age ranges 13-19 years (teenagers). Exclusion criteria were any debilitating/ systemic disease like uncontrolled diabetes, acute infections & habit of smoking form of tobacco etc. Proper ethical clearance was obtained from the college ethical committee. Oral & written consent was taken from the guardians of the subjects prior to clinical examination. Questionnaire was designed & validated by a pilot study.

All the clinical examinations were performed by the principal investigator (First author) while the history on questionnaire was recorded by one of the co-investigators (fourth author). The subjects showing vesiculation, burning sensation of mucosa of mouth & tongue, irritation while consuming spicy food, blanching & stiffness &/or palpable bands of oral mucosa; labial mucosa, buccal mucosa, fauceal pillars mucosa & palatal mucosa, partial or total restriction in mouth opening, restriction in ability of protruding tongue, restricted movement of soft palate & feeling of restriction in blowing cheek etc were regarded as having Oral sub mucous fibrosis[9,10,11].

Sterile mouth mirrors, tweezers, cotton rolls/gauze swabs, disposable mouth masks & hand gloves were used during the clinical examination.

Data collected was analysed using the SPSS 10.0 version.

RESULTS

Results of the study showed that 256 subjects out of 750 (34.1%) were using tobacco and/or its associated products like (areca nut, betel quid etc) and among them 41 subjects reported with Oral Sub Mucous Fibrosis (5.4% of the total sample size & 16.0% of the subjects consuming tobacco &/or its associated products).

Table 1. shows that 509 of the study subjects were males as compared to 241 females and 29 male subjects were had OSMF compared to 12 females. Among 63 females 12 subjects (19.0%) were diagnosed having OSMF as compared to 29 out of 193 (15.0%) male subjects confirming higher prevalence of OSMF in tobacco (& its associated products) consuming female subjects.

Table 2. shows that majority of the subjects 109 were consuming tobacco & areca nut as main constituent (eg. Guthkha) & among them 26 subjects (23.8%) were diagnosed with OSMF while least no of subjects 59 were consuming areca nut without tobacco as main constituent (eg. Pan masala) & among them 09 subjects (15.2%) were diagnosed with OSMF. Only 6 subjects (6.8%) diagnosed with OSMF among 88 subjects which is the second highest in the sub group of type of tobacco products & who consumed tobacco with out areca nut as main constituent.

DISCUSSION

The prevalence of use of tobacco & its associated products (34.1%) in the present study population was higher when compared with study of Saraswathi et al & Neufled et al which were 19.8% & 16.2% respectively[12,13]

The prevalence of OSMF in the present study was 41 (5.4%) while study by Seedat HA & Pindborg et al reported prevalence of OSMF as 3.4% & 4.1% respectively.14,15 This increase in prevalence could be attributable to the increasing trend of consumption of tobacco areca nut & its associated products which are addictive and psychoactive in nature[16,17,18,19]. The tobacco & its associated products are commonly available & being used by the people residing in the rural areas of Dehradun city.

Table 1

S. No.	Total Subjects	Male		Female		Total	
01		509		241		750	
02	No. of Subjects using tobacco	193		63		256	
03	No. of Subjects with Oral Sub Mucous Fibrosis	29	15.0%	12	19.0%	41	16.0%

Table 2

Serial No	Type of Tobacco and its associated products	Subjects consuming different type of tobacco and its associated products	Subjects having OSMF
1	Tobacco & areca nut as main constituent (eg. Guthkha etc.)	109	26 (23.8%)
2	Areca nut as main constituent without tobacco (eg. Pan masala, supari etc.)	59	09 (15.2%)
3	Tobacco as main constituent without areca nut (eg Khaini, Surti etc.)	88	06 (6.8%)
4	Total	256	41 (16.0%)

Awareness regarding ill health of tobacco & areca nut use was minimal. The study population of teenagers is the most vulnerable & susceptible age for initiating tobacco use and its associated products, due to intense peer pressure that lead them to get involved in this high risk behavior.

Use of tobacco and its associated products by the parents, teachers and friends produces harmful effects on young people. Various studies have shown that the use of tobacco is inversely related with the level of education[20,21].

In study of Mazahir S et al use of tobacco and its associated products was more common among males because it is socially more acceptable for males than females[22] & the similar results were obtained in our study also. 193 subjects (75.4%) were male in a group of 256 subjects who consume tobacco & its associated products.

CONCLUSION

The result of the present study provides information of OSMF & use of tobacco & its associated products in teenagers of Dehradun city particularly of rural areas. The observations of the study indicate that prevalence of OSMF and usage of tobacco & its associated products among younger age group is on rise in Dehradun city.

Further studies should be conducted regularly to monitor prevalence of OSMF in different areas where tobacco areca nut and its associated products are prevalent.

Steps are absolutely essential to decelerate the rapid evolving epidemic of Oral Sub-Mucous Fibrosis and oral cancer due to use of tobacco and its associated products in the country. Student population should be properly educated on this topic and oral health awareness should be included in the school education curriculum.

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